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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/505,621	02/16/2000	Mark A. Hollar	M-7348 US	6010

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EXAMINER

DAVIS, ZACHARY A

ART UNIT PAPER NUMBER

2137

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/505,621	HOLLAR ET AL.	
	Examiner	Art Unit	
	Zachary A Davis	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 7-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 41-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20041210</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An amendment was received on 10 January 2005. Claims 1-41 were pending in the present application. Claims 1 and 5 have been amended. New Claims 42 and 43 have been added. Claims 7-40 remain withdrawn from further consideration. No claims have been canceled. Claims 1-6 and 41-43 are presently under examination.

Response to Arguments

2. Applicant's arguments with respect to claims 1-6 and 41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linnartz, US Patent 6209092, in view of Panabaker, "The Transmission of IP Over the Vertical Blanking Interval of a Television Signal", and further in view of Callway et al, US Patent 6356704.

In reference to Claim 1, Linnartz discloses a method including supplying a video signal (for example, from disc 11 in Figure 1), embedding a watermark in the video signal (column 6, lines 5-16, where an analog watermark is included in the vertical blanking interval, or a digital watermark is included in either the MPEG picture type sequence or within the pixel domain, i.e. the video data itself), and providing data associated with the watermark (column 6, lines 17-18; see column 6, lines 33-40, where the watermark is a function of the ticket T; see also column 5, lines 3-5 and 52-54) in a video line of the vertical blanking interval (column 6, lines 8-11). However, Linnartz does not explicitly disclose that the data associated with the watermark extends over a plurality of fields of the video signal.

Panabaker discloses a standard for encoding data in the vertical blanking interval of a video signal in which data is transmitted in packets that contain at most 26 bytes (or $26 \times 8 = 208$ bits) of user data (see figure, page 5). Because Linnartz discloses that the associated data (the ticket T) can be up to 1000 bits long (column 6, lines 20-21), and each packet can hold only 208 bits of data, it would have been obvious that in order to fit a ticket longer than 208 bits into such data packets, it would be necessary to divide the associated data and have it extend over several fields of the video signal (noting that at minimum, one packet is transmitted per field). Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Linnartz by including the standard described by Panabaker, in order to allow the efficient transport of any type of packet data and to provide a standardized

method of such data transport (see Panabaker, page 22, section 14, second paragraph).

Although the combination of Linnartz and Panabaker renders obvious the use of associated data extending over a plurality of video fields, neither Linnartz nor Panabaker explicitly discloses sending the associated data on a line of the vertical blanking interval carrying parental blocking data. Callway discloses a method for detecting protection of video signals that includes an indication of protection (column 2, lines 61-66) that carries both parental control and copy protection data (column 3, lines 5-10). Callway further discloses that this data access parameter (column 3, lines 61-67) is included in the vertical blanking interval of the video signal (column 3, lines 35-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Linnartz and Panabaker by sending the associated data (regarding copy protection) together with parental control data in a line of the vertical blanking interval, in order to allow for a further layer of control over the video data by prohibiting unauthorized access according to parental controls in addition to preventing unauthorized copying (see Callway, column 2, lines 25-31). One would be further motivated to modify the method of Linnartz and Panabaker as indicated in order to insure that a personal computer cannot gain unauthorized access or make unauthorized copies of video data (see Callway, column 1, lines 55-58, and column 2, lines 31-35).

In reference to Claim 2, Linnartz further discloses that the associated data is a cryptographic value (column 6, lines 17-18, where ticket T is a cryptographic counter).

In reference to Claim 3, Linnartz further discloses that the cryptographic value is a hash function of a seed (column 6, lines 57-58, where F is a one-way function) and that the watermark is a multiple hash function of the seed (column 6, lines 59-60).

In reference to Claim 42, Linnartz further discloses that the associated data includes at least 64 bits (column 6, lines 20-21, where the ticket can have up to 1000 bits). Further, because Linnartz discloses associated data of up to 1000 bits long and Panabaker discloses packets containing at most 208 data bits (see Figure, page 5), a 1000 bit ticket would take 5 packets to transmit, and therefore the associated data extends over at least four fields.

In reference to Claim 5, Linnartz discloses an apparatus including a seed generator (column 6, lines 1 and 55-57), a hash function generator receiving a seed and producing data (see column 5, lines 3-5 and subsequent, describing a one-way function; see also column 6, lines 57-58), a watermark generator receiving the seed and embedding the watermark (see column 6, lines 5-16 and 59-60), and a transmission channel transmitting the watermark and data (column 6, lines 5-16). However, Linnartz does not explicitly disclose that the data associated with the watermark extends over a plurality of fields of the video signal.

Panabaker discloses a standard for encoding data in the vertical blanking interval of a video signal in which data is transmitted in packets that contain at most 26 bytes (or $26 \times 8 = 208$ bits) of user data (see figure, page 5). Because Linnartz discloses that the associated data (the ticket T) can be up to 1000 bits long (column 6, lines 20-21), and

each packet can hold only 208 bits of data, it would have been obvious that in order to fit a ticket longer than 208 bits into such data packets, it would be necessary to divide the associated data and have it extend over several fields of the video signal (noting that at minimum, one packet is transmitted per field). Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Linnartz by including use of the standard described by Panabaker, in order to allow the efficient transport of any type of packet data and to provide a standardized method of such data transport (see Panabaker, page 22, section 14, second paragraph).

Although the combination of Linnartz and Panabaker renders obvious the use of associated data extending over a plurality of video fields, neither Linnartz nor Panabaker explicitly discloses sending the associated data on a line of the vertical blanking interval carrying parental blocking data. Callway discloses an apparatus for detecting protection of video signals that includes an indication of protection (column 2, lines 61-66) that carries both parental control and copy protection data (column 3, lines 5-10). Callway further discloses that this data access parameter (column 3, lines 61-67) is included in the vertical blanking interval of the video signal (column 3, lines 35-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Linnartz and Panabaker by sending the associated data (regarding copy protection) together with parental control data in a line of the vertical blanking interval, in order to allow for a further layer of control over the video data by prohibiting unauthorized access according to parental controls in addition

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to preventing unauthorized copying (see Callway, column 2, lines 25-31). One would be further motivated to modify the apparatus of Linnartz and Panabaker as indicated in order to insure that a personal computer cannot gain unauthorized access or make unauthorized copies of video data (see Callway, column 1, lines 55-58, and column 2, lines 31-35).

In reference to Claim 6, Linnartz further discloses that the watermark is a multiple hash function of the seed (column 6, lines 59-60).

In reference to Claim 43, Linnartz further discloses that the associated data includes at least 64 bits (column 6, lines 20-21, where the ticket can have up to 1000 bits). Further, because Linnartz discloses associated data of up to 1000 bits long and Panabaker discloses packets containing at most 208 data bits (see Figure, page 5), a 1000 bit ticket would take 5 packets to transmit, and therefore the associated data extends over at least four fields.

5. Claims 4 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linnartz in view of Panabaker and further in view of Callway as applied to claims 1 and 5 above, and further in view of Applicant admitted prior art.

Linnartz as modified by Panabaker and Callway teaches sending data associated with a watermark on a line of the vertical blanking interval that also carries parental blocking data. Panabaker further discloses that line 21 of the vertical blanking interval is sometimes reserved for proprietary purposes such as closed captioning (page 4,

section 3.1.1). However, none of Linnartz, Panabaker, or Callway specifically discloses using line 21 of the vertical blanking interval as the line carrying parental blocking data.

Applicant admits that line 21 of the vertical blanking interval is used to carry parental blocking data (page 5, lines 23-28 of Applicant's specification) or other extended data services (page 6, lines 13-15). Additionally, Applicant admits that televisions and personal computers with television tuner cards must, by law, be able to detect line 21 data (page 5, line 31-page 6, line 7). Applicant further states that it has been known for many years that video line 21 is suitable for carrying supplemental digital data (page 19 of Applicant's arguments, filed 14 June 2004).

Therefore, it would have been obvious to one of ordinary skill in the art to further modify the method and apparatus of Linnartz as modified by Panabaker and Callway, by using line 21 of the vertical blanking interval to carry both the parental blocking data and the associated data, collectively referred to as the data access parameter or indication of protection as taught by Callway, since parental blocking data is already carried on line 21 (see page 5, line 23-page 6, line 15 of Applicant's specification).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary A Davis whose telephone number is (571) 272-3870. The examiner can normally be reached on weekdays 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "Andrew Caldwell". The signature is fluid and cursive, with a large, stylized initial "A".

**ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER**